

CLAIMS

1. (Twice Amended) Eddy current electromagnetic retarder for
5 reducing rotation of a crankshaft of a vehicle engine driven about an axis,
said engine having a casing wherein said casing comprises a frontal wall
stretching substantially in a plane perpendicular to said axis of said
crankshaft, said crankshaft shaft has one end directed toward said frontal
wall of said casing of said engine, the retarder being mounted
10 overhangingly on said frontal wall of said casing of said engine via
connecting means, the retarder comprising a rotor part which rotates
coaxially with said crankshaft, a stator part coaxial with said crankshaft and
secured to said frontal wall of said casing of said engine, an armature
operatively attached to said rotor part and an inductor operatively attached
15 to said stator part, said inductor being arranged on a stationary annular
component of said stator part, facing said armature, wherein said rotor part
has symmetry of revolution about said axis of said crankshaft so that said
rotor part has a peripheral face facing a peripheral face of said stator part,
said inductor of said retarder having at least one electromagnetic winding.

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2. (Twice Amended) The retarder as claimed in claim 1, wherein
said rotor part has an external component of substantially cylindrical shape
which surrounds said stator part and which constitutes said armature of
said retarder, said external component having a radial flange secured to
25 said crankshaft, said flange being pierced with a number of holes.

3. (Twice Amended) The retarder as claimed in either of claims 1 and 2, wherein said inductor of said retarder is an inductor with poles each surrounded by an induction winding and projecting radially outwardly on an external face of said annular component of said stator part.

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4. (Twice Amended) The retarder as claimed in claim 3, wherein said poles are secured to a first annulus and the collection of induction windings constitutes a second annulus of larger diameter than that of said first annulus, said second annulus being assembled coaxially with said first
10 annulus by fitting each pole into a respective induction winding.

5. (Twice Amended) The retarder as claimed in either of claims 1 and 2, wherein said inductor of said retarder is an inductor with claws and with one single induction winding.

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6. (Twice Amended) The retarder as claimed in claim 5, wherein a first set of claws constitutes a first annulus and a second set of claws constitutes a second annulus with the same diameter as that of the first annulus, said induction winding surrounding a cylindrical component of a
20 diameter smaller than that of the first and second annuli, said annuli being assembled coaxially with said cylindrical component in such a way that each claw of the first set of claws is interspersed between two adjacent claws of the second set of claws.

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7. (Twice Amended) The retarder as claimed in either of claims 1 and 2, wherein said connecting means comprise a framework which has at least one substantially radial flange centered on said crankshaft and

pierced with a number of holes, said flange having arms extending from said flange toward said engine to secure said framework to said frontal wall of said casing of said engine, the electromagnetic retarder being housed in a space delimited by said flange, said fixing arms and said frontal wall of
5 said engine.

8. (Twice Amended) The retarder as claimed in either of claims 1 and 2, wherein a pulley situated at an output of said crankshaft is arranged between said casing of said engine and the retarder.

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9. (Twice Amended) The retarder as claimed in claim 1, wherein said rotor part has an external component of substantially cylindrical shape surrounding said stator part and constituting said armature of the retarder,
15 said external component having a radial flange secured to said crankshaft, wherein said flange being pierced with a number of holes; said retarder further comprises a pulley being situated at an output of said crankshaft and arranged between said casing of said vehicle engine and said retarder, wherein said flange of said external component incorporates the
20 pulley.

10. (Twice Amended) The retarder as claimed in either of claims 1 and 2, wherein said induction winding is energized from an electrical
25 source, which is regulated for power, of the vehicle.